

M/039/002

Redmond, Utah

January 5, 1991

Mr. D. Wayne Hedberg
Dept of Natural Resources,
State of Utah

RECEIVED
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DOGM
MINERALS PROGRAM
FILE COPY

DIVISION OF
OIL, GAS & MINING

Dear Mr. Hedberg,

We received your letter of Dec. 21, 1990, with attachments on reclamation estimates. In looking it over we find that a lot of changes will need to be made in as much as your information was not adequate nor accurate and largely based on assumptions. As you stated, it is a rough draft, and a more realistic draft needs to be made. We are returning to you along with this letter a copy of the reclamation estimate with some changes and proposed changes listed in the right hand margin.

We wish to say that the 100 acres now owned by the Redmond Clay and Salt Co. are now under lease by the Redmond Development Co., which lease strickly prohibits the Salt company from doing anything listed in the reclomation plan. This would make the Redmond Development Co. liable for the reclomation, should the salt company ever decide to quit or leave. Now we know you are concerned as to what would happen should the Redmond Development Co. pull out. In that case the Bosshardt Farming Trust, which owns all the land surrounding the salt property would take over the land now owned by the salt company and it would become a part of the farm grazing area as it was originally before it was sold to the mining company. So we think you can see that the reclomation plans should be only for safety and post mining use. Mining portals will need to be closed and vertical walls will need to be sloped. However, the ripping, mulching, disking, fertilizing and seeding, of any pit floors or other areas cannot be required, since they were mostly without vegetation originally, and no amount of cultivation or furtilizer will ever grow grass on them again. And since post mining use will be for livestock grazing, such things as existing roads should be left undisturbed. Anything metal has salvage value, wood can be burned and buildings have post mining usefulness.

Thank you. Your consideration of the above facts and suggestions will be appreciAted.

Sincerely

Milo J. Bosshardt

Milo J. Bosshardt

RECLAMATION ESTIMATE
Redmond Clay and Salt Company
North Mining Property
M/039/002

PAGE 1 of 6
last REV 12/10/90
Sanpete County

Prepared by Utah State Division of Oil, Gas & Mining

Reclamation Details – North Mine Property

- Areas designated as Pre-Law by the Division are to be left as is
- Closure of all mine portals by blasting/backfilling for 15 feet inside
- Regrade portal closure to a 2 horizontal: 1 vertical slope (26 degrees)
- ASSUMED: 2 salt mine portals; portal dimensions ~~65 ft x 40 ft~~ 20' x 25'
- ASSUMED: Salt Mine highwalls are ~~100 ft~~ high for entire pit area 50'
- ASSUMED: Clay Mine highwalls are ~~60 ft~~ high for entire pit area 20'
- Pit highwalls to be blasted to 1:1 slope (45 degrees) for entire perimeter
- Pit floors to be Ripped, Mulched, Disked, Fertilized, & Seeded(~~R-M-D-F-S~~) Not applicabl
- Waste dumps & piles to be regraded to a 3h:1v slope (18 degrees) yes
- All waste dumps & piles to be ~~M-D-F-S~~ Not applicabl
- Roads designated by the Division as having a post-mining use to be left as is
- All other roads to have berms removed, be regraded, and be R-M-D-F-S Post use

Description	Amount	\$/Unit	Cost-\$	
Blasting 2 portals	3,000 CY	5.55	16,650	\$4,000
Regrading 2 portal closures	2,000 CY	0.25	500	500
Blasting salt pit highwalls	715 LF	4.25	3,039	1,500
Rip Salt pit floor	0.81 acre	955	774	-----
M-D-F-S Salt pit floor	0.81 acre	1,480	1,199	-----
Blasting clay pit highwalls	4,290 LF	1.56	6,692	2,000
Rip Clay pit floors	4.07 acre	955	3,887	-----
M-D-F-S Clay pit floors	4.07 acre	1,480	6,024	-----
Regrade waste dump	1.39 acre	802	1,115	1,000
M-D-F-S Waste dump	1.39 acre	1,480	2,057	-----
Regrade gravel pile	1.57 acre	802	1,259	post uae
M-D-F-S Gravel pile	1.57 acre	1,480	2,324	Post use
Rip roads & regrade berm	3.44 acre	1,055	3,629	
M-D-F-S Roads	3.44 acre	1,480	5,091	
SUBTOTAL			54,239	\$9,000
+ 10% CONTINGENCY			5,424	
SUBTOTAL			59,663	
+ 5 yr ESCALATION(1.84%)			5,695	
NORTH MINING PROPERTY SUBTOTAL IN 1995-\$			\$65,357	\$10,000

RECLAMATION ESTIMATE	PAGE 2 of 6
Redmond Clay and Salt Company	12/10/90
South Mining Property	Sanpete County
M/039/002	
Prepared by Utah State Division of Oil, Gas & Mining	

Reclamation Details - South Mine Property

- Closure of all mine portals by blasting/backfilling for 15 feet inside
- Regrade portal closure to a 2 horizontal: 1 vertical slope (26 degrees)
- ASSUMED: 4 salt mine portals; portal dimensions ~~65 ft x 40 ft~~ ----- 20' x 50'
- ASSUMED: Salt Mine highwalls are 100 ft high for entire pit area ----- 60'
- Pit highwalls to be blasted to 1:1 slope for entire perimeter
- Pit floors to be Ripped, Mulched, Disked, Fertilized, & Seeded(~~R-M-D-F-S~~) ---- Not applicab
- Waste dump & new earth removal area regraded to a 3h:1v slope (18 degrees)
- Waste dump & new earth removal areas to be ~~M-D-F-S~~ ----- Not applicable
- Yard area (includes facilities area) to be ~~R-M-D-S-F~~ ----- Not applicable
- ASSUMED: Metal scrap to be buried on mine site and area ~~R-M-D-S-F~~ ---- Not applicable
- Roads graded & ~~R-M-D-S-F~~ unless a Division designated post-mining use ---- Post use.

Description	Amount	\$/Unit	Cost-\$	
Blasting 4 portals	6,000 CY	5.55	33,300	\$20,000
Regrading 4 portal closures	4,000 CY	0.25	1,000	1,000
Blasting salt pit highwalls	1,925 LF	4.25	8,181	5,000
Rip Salt pit floor	2.06 acre	955	=1,967	=====
M-D-F-S Salt pit floor	2.06 acre	1,480	3,049	-----
Regrade Waste dump	1.08 acre	802	866	800
M-D-F-S Waste dump	1.08 acre	1,480	-1,598	-----
Regrade Earth removal area	2.51 acre	802	2,013	2,000
M-D-F-S Earth removal area	2.51 acre	1,480	3,715	-----
Rip Yard area	5.20 acre	955	-4,966	-----
M-D-S-F Yard area	5.20 acre	1,480	-7,696	-----
Bury metal scrap	0.77 acre	1,210	-932	Sell
Rip Metal Scrap area	0.77 acre	955	-735	-----
M-D-S-F Metal Scrap area	0.77 acre	1480	-1,140	-----
Rip roads & regrade berm	6.22 acre	1,055	-6,562	Post use
M-D-F-S Roads	6.22 acre	1,480	-9,206	Post use
	SUBTOTAL		86,926	\$28,800
	+ 10% CONTINGENCY		8,693	
	SUBTOTAL		95,618	.
	+ 5 yr ESCALATION(1.84%)		9,127	
SOUTH MINING PROPERTY SUBTOTAL-A		IN 1995-\$	-\$104,745	\$32,000

RECLAMATION ESTIMATE Redmond Clay and Salt Company South Mining Property M/039/002	PAGE 3 of 6 12/10/90 Sanpete County
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Prepared by Utah State Division of Oil, Gas & Mining

Reclamation Details – South Mine Property --CONTINUED--

- Pond area to be backfilled/regraded and ~~M-D-S-F=====~~
- ASSUMED: All facilities to be demolished and buried on site; ~~no salvage value==~~
- ASSUMED: The following dimensions for each facility listed below
- Shed 45'x20'x18'; Shop 70'x30'x20'; Primary Crusher 60'x30'x20';
- Secondary Crusher 60'x30'x20'; Mill 150'x80'x25'; Bulk Storage 150'x140'x25';
- Scales 75'x20'x15'; Old Compressor House 30'x30'x12'; Old Pump
- House 30'x30'x12'; Compressor House 30'x30'x12'; Tank 25' diameter;
- ASSUMED: Crushers have reinforced concrete; bldgs have concrete floors

All metal
has salvage
value.
All building
have salvage
value or
post use.

Description	Amount		\$/Unit	Cost-\$
Backfill/Regrade Pond	0.44	CY	802	353
M-D-S-F Pond area	0.44	CY	1480	651
Demolish Shed	16,200	CF	0.20	3,240
Demolish Shop	42,000	CF	0.20	8,400
Shop Concrete Floor**BURIED ONSITE**	0	SY	11.75	0
Demo. Primary Crusher	36,000	CF	0.20	7,200
Crusher Concrete**BURIED ONSITE**	0	CY	245	0
Demo. Secondary Crusher	36,000	CF	0.20	7,200
Crusher Concrete**BURIED ONSITE**	0	CY	245	0
Demolish Mill **POST MINING USE**	300,000	CF	0.20	0
Demo. Mill Concrete Floor**POST USE**	1333	SY	11.75	0
Demo. Bulk Str.**POST MINING USE**	525,000	CF	0.20	0
Demo. Bulk Storage Floor**POST USE**	2333	SY	11.75	0
Demolish Scales	22,500	CF	0.20	4,500
Demo. Old Pump House	10,800	CF	0.20	2,160
Demo. Old Compressor House	10,800	CF	0.20	2,160
Demo. Compressor House	10,800	CF	0.20	2,160
Demolish Tank	1	ea	500	500
SUBTOTAL				38,524
+ 10% CONTINGENCY				3,852
SUBTOTAL				42,376
+ 5 yr ESCALATION(1.84%)				4,045
SOUTH MINING PROPERTY SUBTOTAL-B				IN 1995-\$ \$46,421

\$350
\$350

Post use
Post use
Salvage val.
Post use
Salvage val.
posy use
0
0
0
Salvage val.
\$100
200

se;;
-\$650
\$800

Reclamation Details – Clay Mine Property

- ASSUMED: Clay Mine highwalls are ~~60 ft high for entire pit area~~ ----- 20'
- Pit highwalls to be blasted to 1:1 slope for entire perimeter
- Four Pits: (1) 1.17 acre P=1,040'; (2) 2.61 acre P=1,250';
- (3) 1.18 acre P=1,040'; (4) 2.44 acre P=2,080';
- Pit floors to be ~~R-M-D-F-S~~ ----- Not applicable
- ASSUMED: Clay Pads have an earthen base
- Two Clay Pads: (1) 2.36 acre; (2) 11.16 acre; to be ~~R-M-D-S-F~~ ----- Not applicable
- Brine Pond to be backfilled/regraded & ~~M-D-S-F~~ ----- Not applicable
- ASSUMED: Clay Mill to be demolished and debris buried on site Has salvage and post use value
- ASSUMED: Clay Mill dimensions are 250'x100'x20', with a concrete floor
- Roads to be ~~R-M-D-S-F~~ unless Division designated as post-mining use ----- post use

Description	Amount	\$/Unit	Cost-\$	
Blasting clay pit highwalls	5,410 LF	1.56	8,440	\$3000
Rip Clay pit floors	7.40 acre	955	7,067	Not applicab
M-D-F-S Clay pit floors	7.40 acre	1,480	10,952	Not applicabl
Rip Clay Pads	13.52 acre	955	12,912	not applicabl
M-D-S-F Clay Pads	13.52 acre	1480	20,010	Not applicabl
Backfill/Regrade Brine Pond	0.69 acre	1210	835	800
M-D-S-F Brine Pond	0.69 acre	1480	1,021	Not applicabl
Demo. Clay Mill**POST MINING USE**	500,000 CF	0.20	0	
Demo. Clay Mill Floor**POST USE**	2,777 SY	9.20	0	
Rip roads & regrade berm	8.24 acre	1,055	8,693	Post use
M-D-F-S Roads	8.24 acre	1,480	12,195	POST USE
SUBTOTAL			82,124	\$3,800
+ 10% CONTINGENCY			8,212	
SUBTOTAL			90,337	
+ 5 yr ESCALATION(1.84%)			8,623	
CLAY MINING PROPERTY SUBTOTAL	IN 1995-\$		\$98,959	\$5,000

RECLAMATION ESTIMATE
Redmond Clay and Salt Company
Salt & Clay Mining Properties
M/039/002

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12/10/90
Sanpete County

Prepared by Utah State Division of Oil, Gas & Mining

*** REFERENCES USED IN CALCULATING THIS ESTIMATE:

- Means Site Work Cost Data 1990
- Caterpillar Performance Handbook, Edition 18
- Rental Rate Blue Book, 1989 & 1990 sources

Blasting [022-234-0100] <= Means Reference Number

Mulch [029-516-0350]

Disking [029-204-6050]

Seeding [029-308-1600]

Fertilizing [029-720-0130]

Building Demolition & Disposal (Burial) [020-604-0500] & [020-604-0100]

Concrete Demolition, 6" thick, mesh reinforced [020-554-1900]

Concrete Demolition, 6" thick, rod reinforced [020-554-2000]

Concrete Demolition, 7-24" thick, reinforced [020-554-2200]

***The following items were calculated by the Division using the

*** Cat Handbook, Blue Book and SME Mining Engineering Handbook, 1973:

Regrading: Portal Closures, Dumps, Piles, Ponds

Ripping: Pit Floors, Roads, Pads; Blasting Pit Highwalls

Burying Scrap Metal

SUMMARY OF RECLAMATION COSTS

NORTH MINING PROPERTY SUBTOTAL	--\$65,357--	\$10,000
SOUTH MINING PROPERTY SUBTOTAL-A	---\$104,745	32,000
SOUTH MINING PROPERTY SUBTOTAL-B	-\$46,421-	800
CLAY MINING PROPERTY SUBTOTAL	--\$98,959--	5,000

TOTAL OF RECLAMATION ESTIMATE	--\$315,483--	\$47,800
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ROUNDED TOTAL OF RECLAMATION ESTIMATE	IN 1995-\$	\$315,500
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